

corrugated conduit 2 shown in FIGS. 9 and 10 may comprise a raceway conduit, which is being branched off with the third conduit 1c shown in FIG. 11. The raceway corrugated conduit 2 may be located in a plenum, riser or general raceway.

Finally, in FIG. 11, the second side 12 is shown releasably secured to the first side 11 after the corresponding conduits 1a, 1b and 1c have been inserted in the U-channels 64a, 64b and 64c. When the second side 12 is pressed against the first side 11, the first snap fitting mechanism 21 will mate with the second snap fitting mechanism 22 to releasably secure the first side 11 to the second side 12, thereby forming the coupling device 10, as shown in FIG. 11 and also as discussed above. As illustrated in FIGS. 8, 9 and 11, the first opening 51, the second opening 52 and third opening 53 will each be sized to engage a corresponding conduit 1a, 1b or 1c, when the first side 11 is releasably secured to the second side 12. In the preferred embodiment illustrated in FIG. 11, the corresponding conduits 1a, 1b and 1c are corrugated conduits 2, such that the first, second and third openings 51, 52 and 53 will be sized to fit into one of the corrugations 3 of the corrugated conduit 2, thereby creating an interference fit 54. As also indicated above, in a preferred embodiment, the openings 51, 52 and 53 are formed of conical ends 60 having pre-scored cut lines 62 to facilitate sizing the openings 51, 52 and 53 to create an interference fit 54 with the corresponding conduit 1a, 1b, 1c. Still more preferably, the openings 51, 52, 53 have ribs 56 at locations on the centre lines C₁, C₂, C₃ which align with a pre-scored cut line 62, such that after the conical ends are cut at a pre-scored cut line 62, the opening 51, 52, 53 with a rib 56 sized to fit into a corrugation of a corresponding corrugated conduit 2.

To the extent that a patentee may act as its own lexicographer under applicable law, it is hereby further directed that all words appearing in the claims section, except for the above defined words, shall take on their ordinary, plain and accustomed meanings (as generally evidenced, inter alia, by dictionaries and/or technical lexicons), and shall not be considered to be specially defined in this specification. Notwithstanding this limitation on the inference of "special definitions," the specification may be used to evidence the appropriate ordinary, plain and accustomed meanings (as generally evidenced, inter alia, by dictionaries and/or technical lexicons), in the situation where a word or term used in the claims has more than one pre-established meaning and the specification is helpful in choosing between the alternatives.

It will be understood that, although various features of the invention have been described with respect to one or another of the embodiments of the invention, the various features and embodiments of the invention may be combined or used in conjunction with other features and embodiments of the invention as described and illustrated herein.

Although this disclosure has described and illustrated certain preferred embodiments of the invention, it is to be understood that the invention is not restricted to these particular embodiments. Rather, the invention includes all embodiments, which are functional, electrical or mechanical equivalents of the specific embodiments and features that have been described and illustrated herein.

The embodiments of the invention in which an exclusive property or privilege is claimed are defined as follows:

1. A coupling system comprising:

at least two corresponding corrugated conduits, wherein at least one corresponding corrugated conduit has a first diameter and at least one corrugated conduit has a second diameter different from the first diameter; and
a coupling device to couple the at least two corrugated conduits together, said coupling device comprising:

a first side having a first snap fitting mechanism;
a second side having a second snap fitting mechanism, said first snap fitting mechanism mating with the second snap fitting mechanism to releasably secure the first side to the second side and form the coupling device, said coupling device having a main body communicating with a first opening, a second opening and a third opening;

wherein said first opening, second opening and third opening engage at end of each of the at least two corrugated conduits by fitting into a corrugation near the end of each of the at least two corrugated conduits when the first side is releasably secured to the second side, and

wherein each of the first opening, the second opening and the third opening have a conical end with pre-scored cut lines aligned with opening ribs along each conical end to permit the conical end to be cut at one of the pre-scored cut lines corresponding to the first diameter or the second diameter, such that the opening ribs having the first diameter or the second diameter engage the corrugation of the at least two corrugated conduits having the first diameter or the second diameter.

2. The coupling system as defined in claim 1 wherein the first side extends along a first longitudinal axis and the second side extends along a second longitudinal axis; and

wherein the first snap fitting mechanism mates with the second snap fitting mechanism when the first side faces the second side and the first longitudinal axis is aligned with the second longitudinal axis.

3. The coupling system as defined in claim 2 wherein the first opening has a first centre line extending to the main body and the first center line is substantially aligned with the first longitudinal axis and the second longitudinal axis.

4. The coupling system as defined in claim 3 wherein the second opening has a second centerline and the third opening has a third centerline; and

wherein the second centerline and the third centerline form an acute angle with respect to the first longitudinal axis and the second longitudinal axis.

5. The coupling system as defined in claim 3 wherein the coupling device is substantially symmetrical about the first longitudinal axis and the second longitudinal axis.

6. The coupling system as defined in claim 1 wherein the first side is substantially identical to the second side.

7. The coupling system as defined in claim 1 wherein the first side extends along a first longitudinal axis and the second side extends along a second longitudinal axis; and

wherein said first side is substantially symmetrical about the first longitudinal axis and the second side is substantially symmetrical about the second longitudinal axis.

8. The coupling system as defined in claim 7 wherein the first snap fitting mechanism comprises ribs on one side of the first longitudinal axis and the first snap fitting mechanism comprises slots on another side of the first longitudinal axis.

9. The coupling system as defined in claim 1 wherein the first side has a first perimeter and the second side has a second perimeter; and

wherein the first snap fitting mechanism extends along at least a first portion of the first perimeter and the second snap fitting mechanism extends along at least a second portion of the second perimeter.

10. The coupling system as defined in claim 9 wherein the first snap fitting mechanism comprises a plurality of ribs which mate with a corresponding plurality of slots in the second snap fitting mechanism.